

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Reid W. Von Borstel, et al

Serial No. 09/494,243

Filed: January 31, 2000

For: ACYL DEOXYRIBONUCLEOSIDE DERIVATIVES  
AND USES THEREOF



Atty. Ref.: 1331-300

Group:

Examiner:

RECEIVED  
APR 13 2000  
TECH CENTER 2700

RECEIVED  
APR 12 2000  
TC 2800 MAIL ROOM

\* \* \* \* \*

April 7, 2000

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**INFORMATION DISCLOSURE STATEMENT**

Attached is a completed Form PTO-1449 listing references in connection with this application. Copies of these references are in the file-wrapper of parent application Serial No. 08/309,572 and are therefore not being submitted with this IDS.

The Examiner is requested to initial the attached PTO-1449, and to return a copy of the initialed document to the undersigned as an indication that the listed references have been considered and made of record.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: \_\_\_\_\_

Leonard C. Mitchard  
Reg. No. 29,009

LCM:lks  
1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

ATTY. DOCKET NO.

SERIAL NO.

1331- 300

09/494,243

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APR 07 2000

APPLICANT

von Borstel, t al

FILING DATE

January 31, 2000

GROUP

## U.S. PATENT DOCUMENTS

| *EXAMINER<br>INITIAL | DOCUMENT NUMBER | DATE  | NAME              | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
|----------------------|-----------------|-------|-------------------|-------|----------|-------------------------------|
|                      | 3,585,188       | 6/71  | MARUMOTO, et al   |       |          |                               |
|                      | 4,757,139       | 7/88  | KAWAGUCHI, et al  |       |          |                               |
|                      | 4,084,432       | 9/77  | BAKER             |       |          |                               |
|                      | 3,975,367       | 8/76  | GISH et al        |       |          |                               |
|                      | 4,208,406       | 6/80  | LAPINET et al     |       |          |                               |
|                      | 4,560,678       | 12/85 | RANSON            |       |          |                               |
|                      | 4,657,896       | 4/87  | YANO et al        |       |          |                               |
|                      | 4,675,189       | 6/87  | KENT et al        |       |          |                               |
|                      | 4,758,553       | 7/88  | OGOSHI            |       |          |                               |
|                      | 3,991,045       | 11/76 | ISHIDA et al      |       |          |                               |
|                      | 4,868,162       | 9/89  | KAWAGUCHI         |       |          |                               |
|                      | 5,246,708       | 9/93  | von Borstel et al |       |          |                               |
|                      | 4,048,432       | 9/77  | Baker             |       |          |                               |
|                      | 3,894,000       | 7/75  | Wechter et al     |       |          |                               |
|                      |                 |       |                   |       |          |                               |
|                      |                 |       |                   |       |          |                               |
|                      |                 |       |                   |       |          |                               |
|                      |                 |       |                   |       |          |                               |

## FOREIGN PATENT DOCUMENTS

| DOCUMENT NUMBER | DATE  | COUNTRY | CLASS | SUBCLASS | TRANSLATION |    |
|-----------------|-------|---------|-------|----------|-------------|----|
|                 |       |         |       |          | YES         | NO |
| 0056265         | 7/82  | EUROPE  |       |          |             |    |
| 2023085         | 2/77  | JAPAN   |       |          |             |    |
| 8167598         | 10/83 | JAPAN   |       |          |             |    |
| 0028929         | 2/85  | JAPAN   |       |          |             |    |
| 60-174797       | 9/85  | JAPAN   |       |          |             |    |
| 60-064907       | 4/85  | JAPAN   |       |          |             |    |
| 58-167589       | 10/83 | JAPAN   |       |          |             |    |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, etc.)

|  |  |
|--|--|
|  | Chemical Abstracts, Vol. 74, No. 112368K, RAJABALEE, Angew. Chem. Int. Ed. Engl. 10(1):75 (1971) |
|  | Rosowsky et al, "Cancer Treatment Reports" 65:93-99 (Jan/Fed. 1981).                             |
|  | Kanazir et al, <u>Bull. Inst. Nuc. Sci. "Boris, Kidrich"</u> 9:145-153 (1959)                    |
|  | Beltz et al, <u>Bioch. Biophys. Acta</u> 297:258-267 (1973)                                      |

Examiner

Date Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-FB-A820 (also PTO-1449)

ATTY. DOCKET NO.

SERIAL NO.

1331- 300

09/494,243

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APR 07 2000

APPLICANT

von Borstel, et al

FILING DATE

January 31, 2000

GROUP

PATENT DOCUMENTS

| DOCUMENT NUMBER | DATE  | COUNTRY      | CLASS | SUBCLASS | TRANSLATION |    |
|-----------------|-------|--------------|-------|----------|-------------|----|
|                 |       |              |       |          | YES         | NO |
| 57-091995       | 6/82  | JAPAN        |       |          |             |    |
| 2147094         | 4/73  | WEST GERMANY |       |          |             |    |
| 1941942         | 3/71  | WEST GERMANY |       |          |             |    |
| 2096712         | 2/72  | FRANCE       |       |          |             |    |
| 2556727         | 6/85  | FRANCE       |       |          |             |    |
| 0123917         | 9/81  | JAPAN        |       |          |             |    |
| 6049315         | 3/83  | JAPAN        |       |          |             |    |
| 0222192         | 5/87  | EUROPEAN     |       |          |             |    |
| 3319282         | 11/83 | GERMAN       |       |          |             |    |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, etc.)

|  |  |
|--|--|
|  | Hunting, D.J., et al, <u>Carcinogenesis</u> 6:1525-1528 (1985)               |
|  | Golba, et al, <u>Int. J. Rad. Biol.</u> 13:261-268 (1967)                    |
|  | Goh et al, <u>Proc. Soc. Exp. Biol. Med.</u> 145:938-943 (1974)              |
|  | Horikawa, et al, <u>Exp. Cell Res.</u> 34:198-200 (1964)                     |
|  | Pantic, et al, <u>Nature</u> 193:993-994 (1962)                              |
|  | Paoletti, et al, <u>Rev. Francais. Etudes Clin. et Bio.</u> 9:950-955 (1964) |
|  | Petrovic, et al, <u>Int. J. Radiat. Biol.</u> 18:243-258 (1970)              |
|  | Petrovic, et al, <u>Studia Biophysica</u> 43:13-18 (1974)                    |
|  | Petrovic, et al, <u>Int. J. Radiat. Res.</u> 11:609-611 (1967)               |
|  | Savkovic et al, <u>Nature</u> 203:1297-1298 (1964)                           |
|  | Savkovic et al, <u>Nature</u> 211:1179-1180 (1966)                           |
|  | Savkovic et al, <u>Int. J. Rad. Biol.</u> 9:361-368 (1965)                   |
|  | Smets, et al, <u>Int. J. Rad. Biol.</u> 13:269-273 (1967)                    |
|  | Soska et al, <u>Folia Biologica</u> 5:190-198 (1959)                         |
|  | Sugahara et al, <u>Brookhaven Symposia in Biology</u> , 284-302 (1967)       |
|  | Wagner, <u>Int. J. Rad. Biol.</u> 12:101-112 (1967)                          |
|  | Wilczok et al, <u>Int. J. rad. Biol.</u> 9:201-211 (1965)                    |
|  | Goyanes-Villaescusa et al, <u>Lancet</u> 2:575-576 (1973)                    |
|  | Dumont, <u>Ann. Surg.</u> 150:799-807 (1959)                                 |
|  | Nicolau et al, <u>Der Hautarzt.</u> 17:512-515 (1966)                        |
|  | Marshak et al, <u>Proc. Soc. Exp. Biol. Med.</u> 58:62-63 (1945)             |
|  | Newman et al, <u>Am. J. Physiol.</u> 164:251-253 (1951)                      |
|  | Casida et al, <u>Biochemical Pharmacology</u> 15:627-644 (1966)              |

Examiner

Date Considered

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ATTY. DOCKET NO.

SERIAL NO.

1331-300

09/494,243

## INFORMATION DISCLOSURE CITATION

APPLICANT

Von Borstel, et al

FILING DATE

January 31, 2000

(Use several sheets if necessary)

GROUP

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

Hackh's Chemical Dictionary 3rd ed. Julius Grant, ed. pages 44, 45, 332, 333

Ensminger et al, Biochemical Pharmacology, 28: 1541-1545 (1979) thymidine 5'-phosphate.

Ensminger et al, the Chemical Abstracts, 92: 87921x (1980)

Narang et al, the Chemical Abstracts, 83:147700a (1975)

Adamiak et al, the Chemical Abstracts, 106: 156803g (1987)

Pfleiderer, the Chemical Abstracts, -107: 218016j (1987)

Nair et al, the Chemical Abstracts, 101: 192382z (1984)

Ishido et al, the Chemical Abstracts, 92: 59149h (1980)

Fridovich, Annu. Rev. Biochem., 44:147-159 (1975)

BIOCHEMISTRY, Vol. 13, No. 3, 29th January 1974, pages 553-559; M.J. Robins et al: "3'-O-aminoacyl-2'-deoxyadenosines and 2'-O-aminoacyl-3'-deoxyadenosines related to charged transfer ribonucleic acid termini"

BIOCHEMISTRY, Vol. 14, No. 14, 15th July 1974, pages 3144-3151; S.P. Dutta et al: "Synthesis and properties of the naturally occurring N-[ (9-beta-D-ribofuranosylpurin-6-yl)-N-methylcarbamoyl]-L-threonine (mt6A) and other related synthetic analogs

BIOCHEMISTRY, Vol. 20, No. 1, 6th January 1981, pages 8-15, American Chemical Society; A. Bhuta et al: "Stereochemical control of ribosomal peptidyltransferase reaction. Role of amino acid side-chain orientation of acceptor substrate"

BIOCHEMISTRY, Vol. 20, No. 12, 9th June 1981, pages 3480-3485, American Chemical Society; K. Quiggle et al: "Donor Site of Ribosomal Peptidyltransferase: Investigation of Substrate specificity using 2'(3')-O-(N-acylaminoacyl)dinucleoside phosphates as models of the 3'terminus of N-acylaminoacyl transfer ribonucleic acid"

JOURNAL OF AMERICAN CHEMICAL SOCIETY, Vol. 104, No. 2, 1982, pages 544-547, American Chemical Society; G. Buchi et al: "Photochemical epoxidation of aflatoxin B1 and sterigmatocystin: Synthesis of Guanine-Containing adducts"

PURE AND APPLIED CHEMISTRY, Vol. 52, No. 12, 1980, pages 2705-2715, IUPAC GB; T. Matsuura et al: "Organic Chemical Approach to Photo-Cross-Links of Nucleic Acids to Proteins"

JOURNAL OF CARBOHYDRATE NUCLEOSIDES. NUCLEOTIDES, Vol. 4, No. 6, 1977, pages 387-408, Marcel Dekker, Inc.; E.K. Ryu et al; "Aminoacyl Derivatives of Nucleosides, Nucleotides, and Polynucleotides. XXVII. General Synthesis of 2'(3')-O-Aminoacyl Dinucleoside Phosphates Derived from the AA-tRNA terminus"

Morrison and Boyd, Fourth Edition, "Organic Chemistry", Allyn and Bacon, Inc., Boston, 1983

Leukemia, 2(10) 109-110 (1988)

Blood, 74(6) 1923-1928 (1989)

Cancer Treatment Reports, 69(7-8), 851-857 (1985)

Examiner

Date Considered

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-FB-A820 (also PTO-1449)